

## Claims

- [c1] What is claimed is:
- 1.A projection display system capable of diminishing ghost images, comprising:  
an illumination system comprising:  
a light source for emitting at least one light beam; and  
a field lens having a first surface and a second surface opposite to the first surface, the first surface comprising at least one reflection area; and  
an image system utilizing the field lens and a light valve mounted adjacent to the second surface of the field lens for reflecting the light beam emitted by the light source;  
wherein the light beam reflected from the light valve to the reflecting area is further reflected to a region outside of the light valve due to the reflection area.
  - [c2] 2.The projection display system of claim 1, wherein a curvature radius of the first surface of the field lens ranges from 50mm to 500mm.
  - [c3] 3.The projection display system of claim 2, wherein the field lens is a non-spherical surface.
  - [c4] 4.The projection display system of claim 3, wherein the first surface is formed by pivoting a curve around an axis, an equation for the curve being  $X = (1/R) Y^2 / [1 + (1 - (1 + K) * (1/R)^2 * Y^2)]^{1/2} + A * Y^4 + B * Y^6 + C * Y^8 + D * Y^{10}$ , wherein R is the curvature radius,  $R \approx 80\text{mm}$ ,  $K \approx 0$ ,  $A \approx -2.3892 \times 10^{-6}$ ,  $B \approx -7.2980 \times 10^{-8}$ ,  $C \approx -2.5287 \times 10^{-1}$ , and  $D \approx 2.9488 \times 10^{-13}$ .
  - [c5] 5.The projection display system of claim 2, wherein the field lens is a spherical surface.
  - [c6] 6.The projection display system of claim 1 further comprising a color-generator, a light-uniform device and an illumination lens set.
  - [c7] 7.The projection display system of claim 1 further comprising a projection lens set.
  - [c8] 8.The projection display system of claim 1, wherein the light valve is a digital micro-mirror device (DMD).

[c9]

9.The projection display system of claim 1, wherein the light valve is a thin-film micro-mirror array (TMA).